

CLAIMS

Please amend the claims as follows:

Claims 1 through 67 are cancelled.

- 68 (Currently amended) A method of curing concrete utilizing at least one heating component within uncured concrete by energizing the heating component with electrical power to resistively heat the concrete to a first temperature wherein the concrete has a fast rate of cure and a rate of compressive strength gain and then when the rate of compressive strength gain declines, modifying the electrical power to achieve a different second lower concrete temperature with a slower rate of cure.
69. (Currently amended) The method of claim 68 wherein the amount of electrical power is modified to achieve a maximum rate of compressive strength gain of the concrete.
70. (Previously presented) The method of claim 68 wherein the amount of electrical power is modified to achieve a rate of concrete cure.
71. (Previously presented) The method of claim 68 wherein the heating component comprises carbon fibers.
72. (Previously presented) The method of claim 68 wherein the heating component provides structural reinforcement to the concrete.
73. (Currently amended) The method of claim ~~68~~ 69 further comprising ~~heating the concrete at a substantially uniform rate~~ modifying the electrical power to achieve a third lower concrete temperature when the rate of compressive strength gain declines.
74. (Previously presented) The method of claim 68 wherein the concrete contains heat responsive additives to activate a hydration reaction.
75. (Previously presented) The method of claim 68 wherein the concrete contains additives to retard a hydration reaction.
76. (Currently amended) A method of curing concrete comprising:

- a. conducting electrical energy through a heating component wherein at least a portion of the heating component is within the concrete;
- b. achieving a first temperature of concrete;
- c. changing the amount of electrical energy so that the concrete achieves a second lower temperature and temporarily achieves a maximum rate of cure;
- d. continuing steps a through c to control a rate of cure of the concrete.

77. (Currently amended) A method of curing concrete comprising:

- a. conducting electrical energy through a heating component wherein at least a portion of the heating component is within the concrete;
- b. achieving a first temperature of the concrete;
- c. changing the amount of electrical energy so that the concrete achieves a second lower temperature and temporarily achieves the maximum rate of compressive strength gain;
- d. ~~continuing steps a through c~~ repeating step c to control to achieve maximum rate of gain of compressive strength of the concrete.

78. (Previously presented) A method of heating a concrete surface by utilizing at least one heating component installed within the concrete prior to completion of curing and energizing the heating component to heat the concrete.

79. (Withdrawn) A concrete structure comprising at least one heating component installed prior to the completion of concrete cure.

80. (Withdrawn) The concrete structure of claim 79 wherein the heating component heats only a portion of the concrete structure.

81. (Withdrawn) The concrete structure of claim 79 wherein the heating component can be energized after concrete cure to increase the temperature of a surface of the structure.

82. (Withdrawn) A concrete structure comprising:

- a) at least one heating component within the concrete; and
- b) at least one contact member to connect the heating element to an external electrical power source.

82 (Withdrawn) The concrete structure of claim 82 wherein the heating component

is tensioned within a form prior to placement of uncured concrete.

83. (Withdrawn) The concrete structure of claim 82 wherein the heating component is placed within the structure in a manner to supply structural strength.

84. (Withdrawn) A concrete structure comprising at least one heating component comprised of braided carbon fibers.

85. (Withdrawn) The concrete structure of claim 84 wherein the heating component comprises multiple layered braided carbon fibers wherein one braid layer has a different braid angle than at least one other layer.

86. (Withdrawn) A concrete structure comprising at least one heating component installed within the concrete prior to completion of concrete cure and that can be energized after cure to provide radiant heat from the concrete.

87. (Withdrawn) The concrete structure of claim 86 comprising a wall.

88. (Withdrawn) The concrete structure of claim 86 comprising a floor.

89. (Withdrawn) The concrete structure of claim 86 comprising a ceiling.

90. (Withdrawn) A table comprising temperature and time data of a rate of concrete cure for a heating component or heating component placement.

91. (New) The method of claim 68 further comprising allowing the concrete to cool at a rate that achieves near maximum rate of strength gain for each temperature.

92. (New) The method of claim 68 further comprising allowing the concrete to cool at a rate to achieve a near maximum rate of gain in compressive strength at each temperature.

93. (New) A method for achieving the maximum compressive concrete strength in minimal cure time comprising the following steps:

- (a) heating concrete to a first temperature;
- (b) monitoring changes in the rate of strength gain;
- (c) controllably lowering the resistive heat to achieve a second lower concrete temperature;
- (d) monitoring the rate of strength gain at second temperature to maintain a maximum rate of strength gain;
- (e) controllably decreasing the resistive heat when the rate of strength gain

decreases;

- (f) achieving a new third concrete temperature;
- (g) monitoring the rate of strength gain at the third temperature to maintain a maximum rate of strength gain
- (h) controllably decreasing the resistive heat when the rate of strength gain decreases;
- (i) achieving a new fourth concrete temperature; and
- (j) monitoring the rate of strength gain at the fourth temperature to maintain a maximum rate of strength gain.

94. (New) The method of claim 93 further comprising:

- (a) heating the concrete at 50° C for a time wherein the concrete reaches its maximum rate of strength gain;
- (b) controllably reducing the heat to 35° C;
- (c) controllably reducing the heat to the higher of ambient temperature or 12.5° C; and
- (d) controllably reducing the heat to the higher of ambient temperature or 5° C.